



Department of Environment & Conservation
Robert Martineau, Commissioner



THE “STATE” OF TENNESSEE

Materials Management -

Where we are ...

... Where we are going

"Enhancing the quality of life for citizens of Tennessee and to be stewards of our natural environment "



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The Big Picture

MATERIALS MANAGEMENT IN TENNESSEE

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Municipal Solid Waste Generation

Generation is:

MSW Disposal + C&D Disposal + Recycling + Other Diversion Activities



Tennessee's Statewide Generation

10,696,464 tons

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Generation

Top 10 Generators

County	Generation
Shelby	1,909,081
Davidson	1,194,785
Knox	1,074,396
Hamilton	587,897
Rutherford	382,616
Sullivan	316,340
Williamson	312,551
Montgomery	282,275
Madison	255,421
Loudon	212,613

Their Disposal

County	Disposal
Shelby	1,040,804
Davidson	645,226
Knox	471,555
Hamilton	379,834
Rutherford	193,099
Sullivan	163,678
Williamson	200,119
Montgomery	142,103
Madison	107,179
Loudon	196,024

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Generation

Lowest 10 Generators

County	Generation
Meigs	5,883
Grundy	5,759
Sequatchie	5,256
Clay	5,225
Polk	4,795
Moore	4,498
Bledsoe	4,253
Pickett	2,706
Hancock	2,699
Van Buren	1,815

Their Disposal

County	Disposal
Meigs	5,748
Grundy	5,699
Sequatchie	3,918
Clay	3,554
Polk	4,650
Moore	2,520
Bledsoe	4,027
Pickett	2,640
Hancock	2,635
Van Buren	1,599

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Disposal

- Disposal in TN 2012 -
 - Class I
 - Class III/IV
 - Average Disposal Costs -
 - Est. Statewide Disposal Cost-
 - Missed Opportunity Value on MSW
 - Estimated Dollar Value (\$100/ton) -
 - Job Value (1.68 Jobs/1,000 tons) –
 - Tax Value (\$3,160/1,000 tons) -
 - Personal Income Value (\$77,000/1,000 tons) -
- 7,036,427 tons
5,606,465 tons
1,429,962 tons
\$38.71/ton
\$217,023,260
\$420,484,875
7,064
\$13,287,326
\$323,773,450



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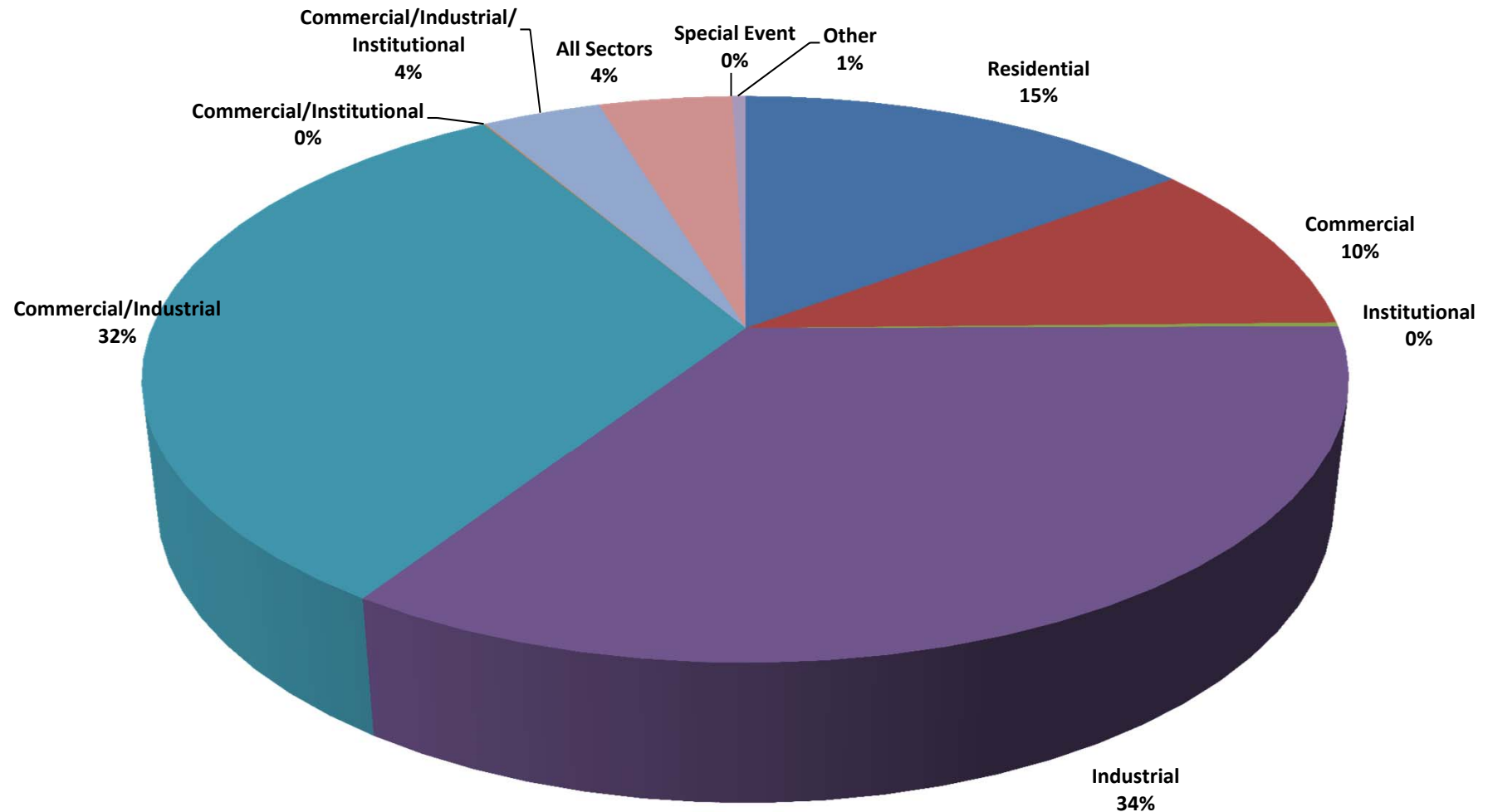
Recycling

- Total Tons Recycled - 2,297,697 tons
- C & D Recycling 137,661 tons
- Value of Recyclables
 - Estimated Dollar Value (\$100/ton) - \$229,669,700
 - Job Value (1.68 Jobs/1,000 tons) – 3,858
 - Tax Value (\$3,160/1,000 tons) - \$7,257,572
 - Personal Income Value (\$77,000/1,000 tons) - \$176,845,900
 - Costs Avoided - \$88,905,140

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Diversion, Recycling and Other Odds and Ends

- Public/Residential Sector
 - Recycling Rate - 3%
 - Capture Rate -
 - HHW Diversion – 180 Tons
 - Diversion Tonnage - 1,374,028 Tons
(C&D Disposal)

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Facilities and Programs

- Active Class I Landfills 34 Facilities
- Active Class III/IV Landfills 68 Facilities
- Composting Operations 12 Facilities
- Material Recovery Facilities 76 Facilities
- PAYT Programs 6 Programs

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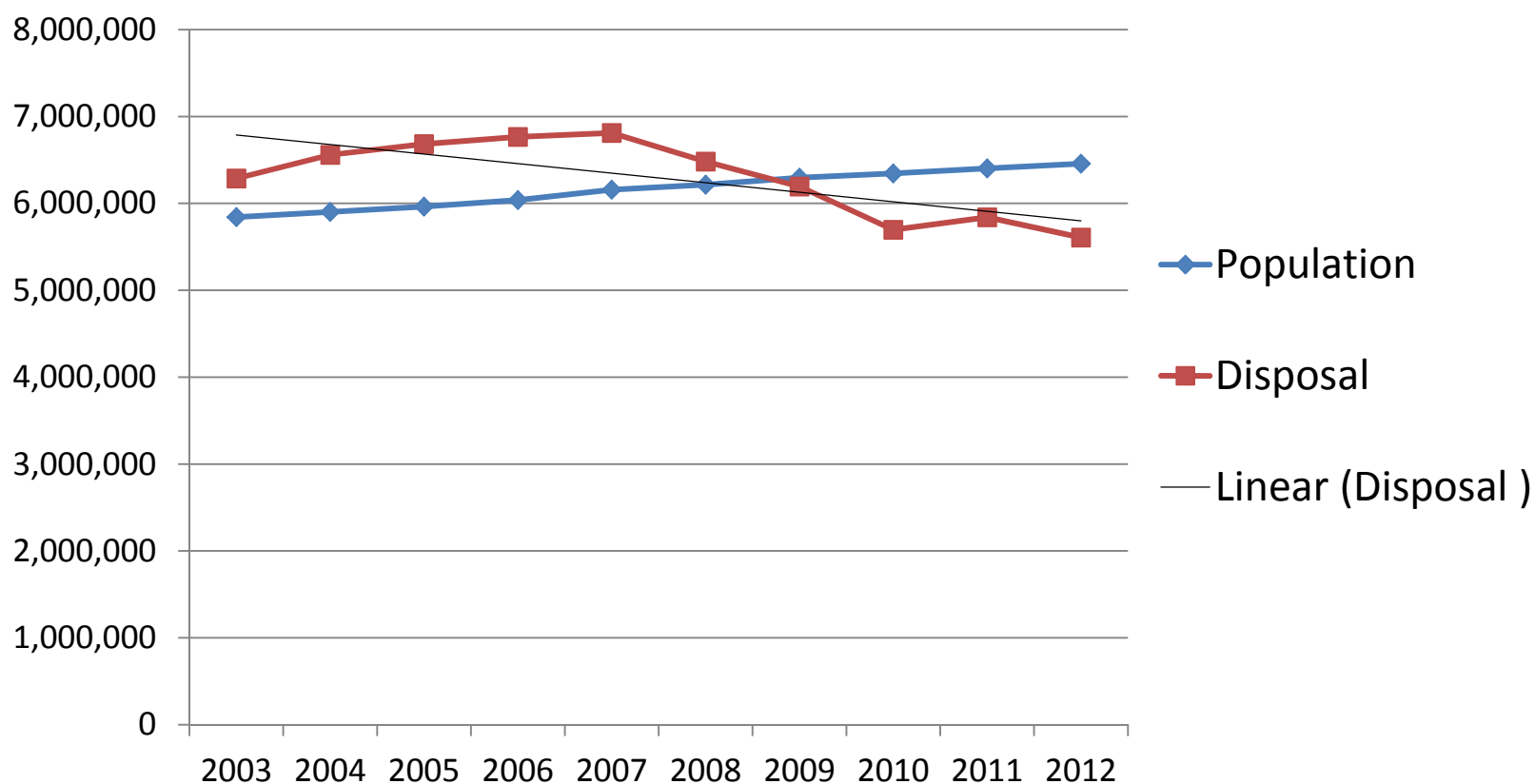


Recycling Facility Type	Operational Capabilities	Number of Facilities
Publicly run baling facility	Direct baling of clean source-separated material	50
Publicly run baling facility w/sorting	Accept mixed recyclables, process and bale sorted material in addition to direct baling source-separated material	4
Publicly owned MRF that is privately operated	Accept mixed recyclables, process material, then bale clean commodities for market	1
Privately run baling facility	Direct bale only clean source-separated material	9
Privately run baling facility w/sorting	Accept some mixed recyclables, process and bale sorted material in addition to direct baling source-separated material	4
Privately owned and operated MRFs	Accept mixed recyclables, process material, then bale clean commodities for market	8

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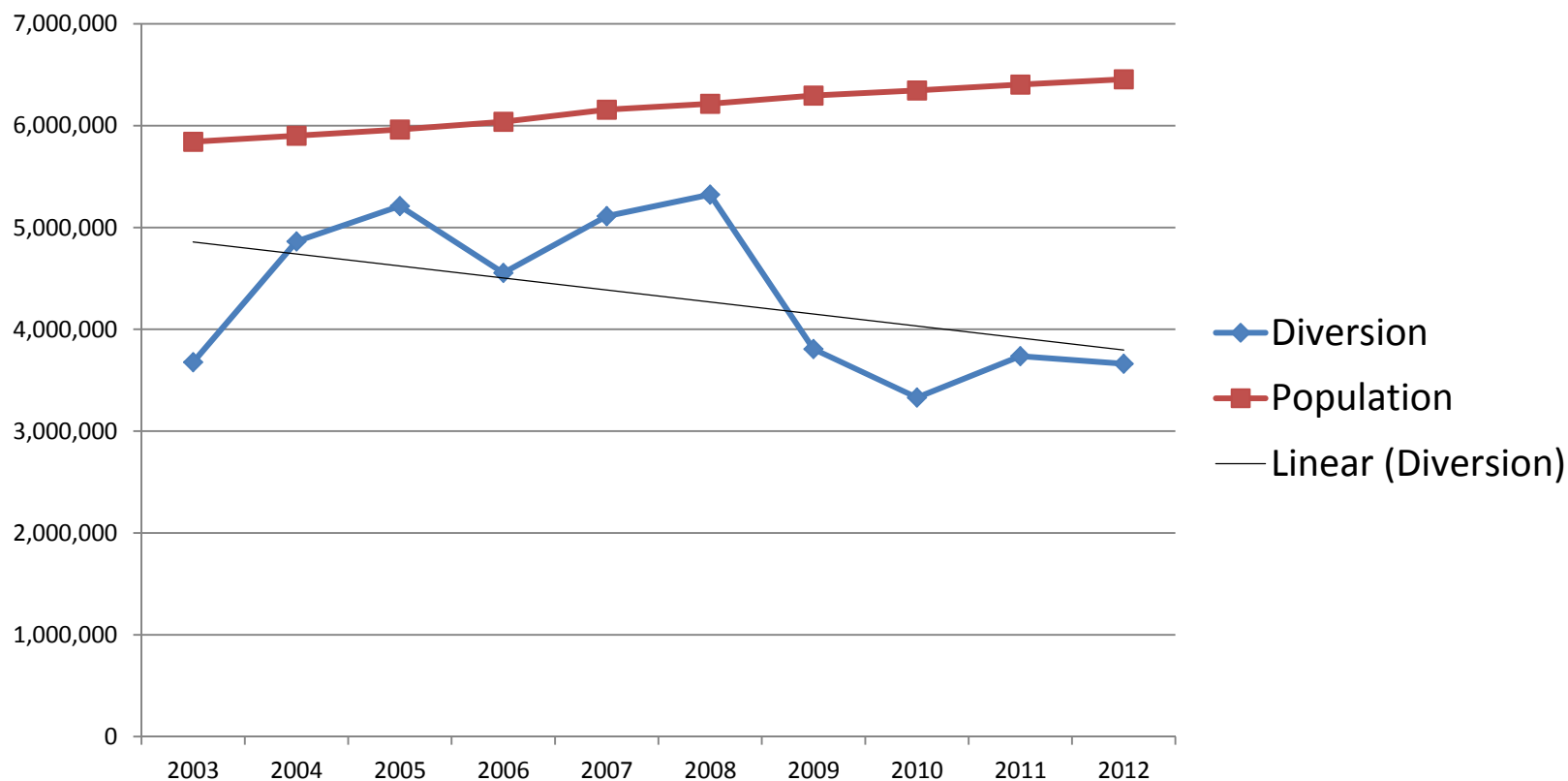


10 Year Trend - Disposal





10 Year Trend - Diversion



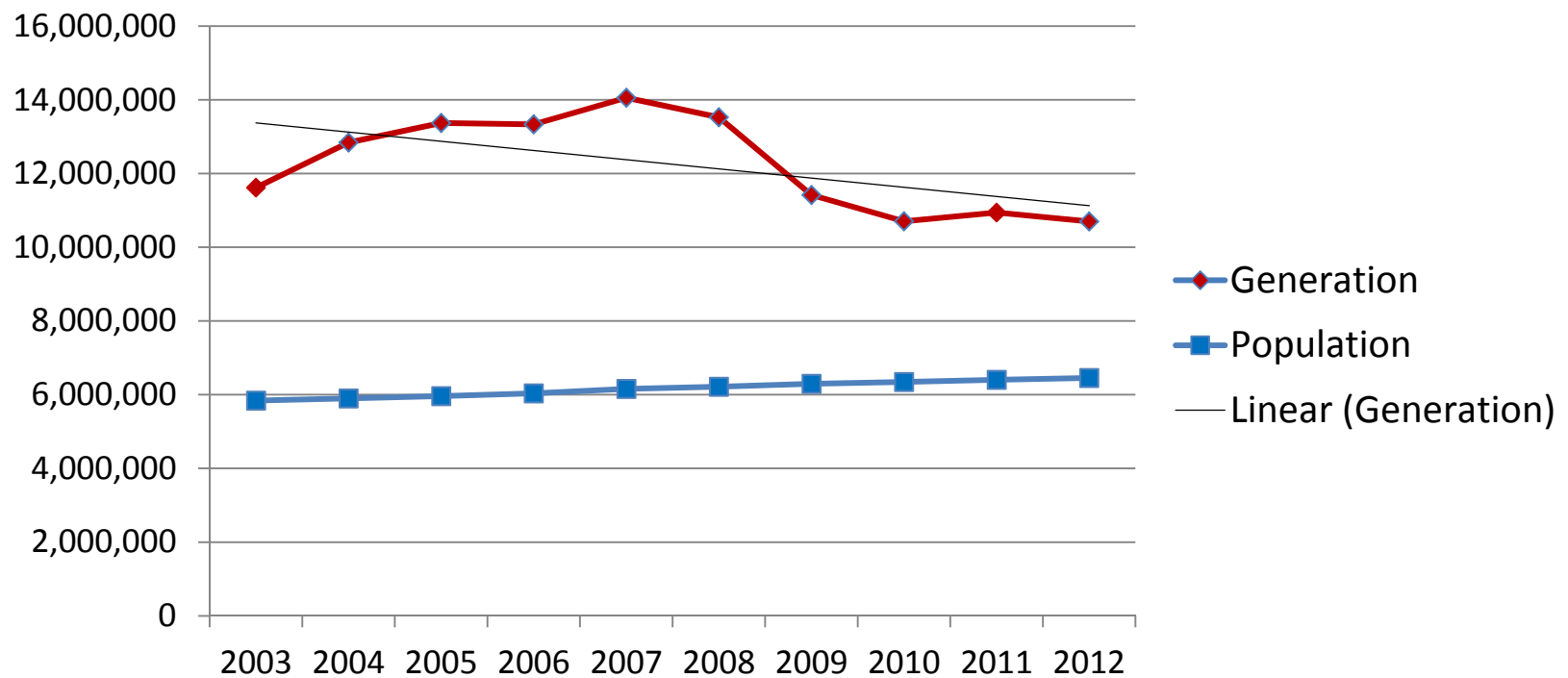
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10 Year Trend - Generation



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Green Boxes

Green Box – An unmanned county waste collection site, usually dumpsters.

Eleven counties reported maintaining Green Boxes in Tennessee.

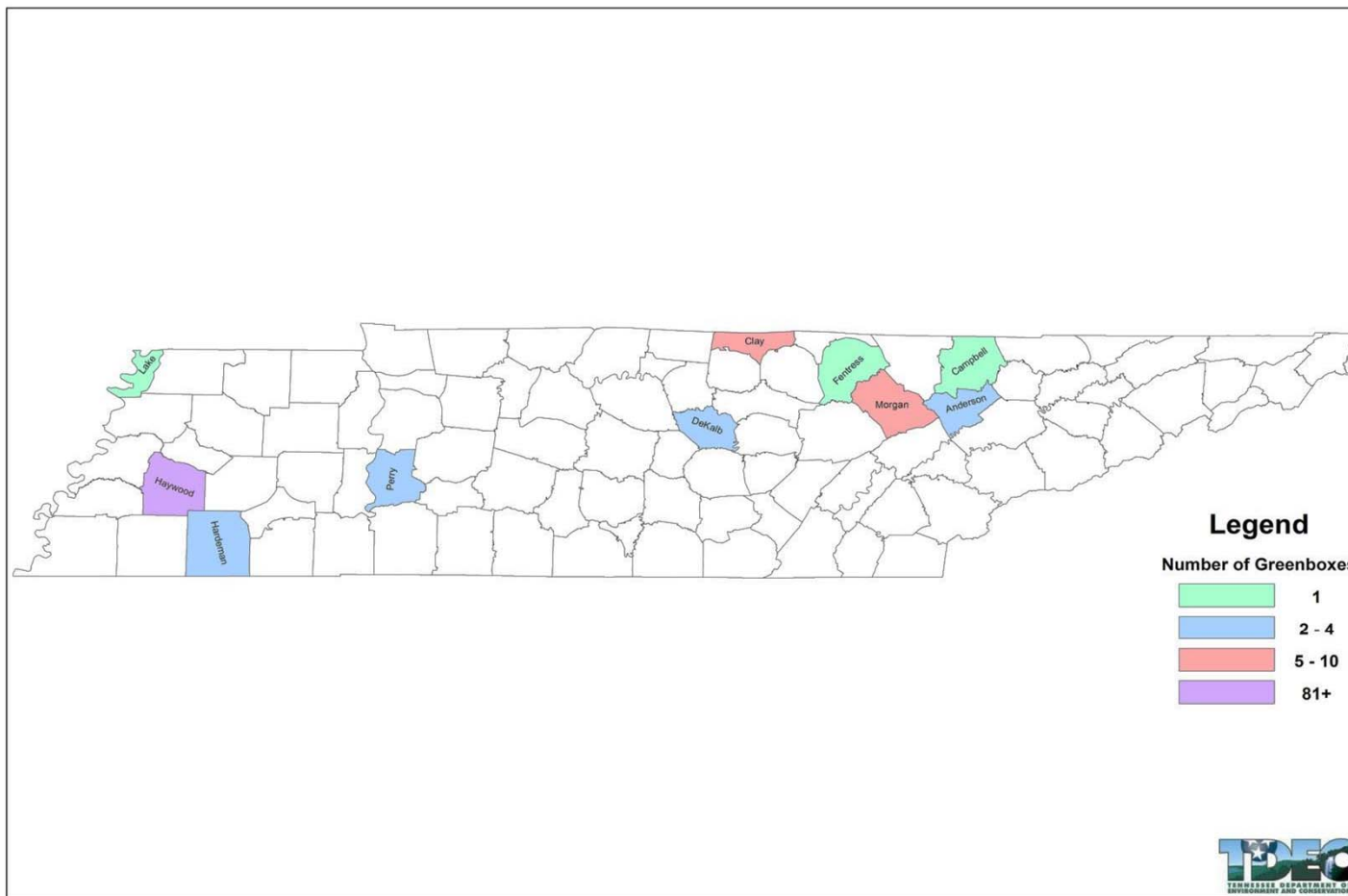
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Tennessee Greenboxes Distribution



As reported in the 2012 Annual Progress Reports

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URBAN w/ CURBSIDE & DROP-OFF



POPULATION
601,122

HOUSEHOLDS
242,474

SERVICE

curbside: City households w/ access to carts: 140,000
service once monthly
95 gallon roll-carts

drop-off: 13 drop-off sites and 3 convenience centers



ACCEPTED

All paper & boxes (including cartons)
All plastic bottles and containers (including tubs, lids, and plastic trays)
All metal and aluminum cans
Glass bottles and jars can be recycled at drop-off sites and convenience centers only.

FACILITY

Waste Management, Inc. Recycling
DISTANCE TO RECYCLING FACILITY: Nashville, in-town

COLLECTED

tons collected curb & drop-off

20,069

166

pounds per household

AVAILABLE

tons of focus materials disposed

110,000

MOVING FORWARD

Increase access and collection frequency

50% of available focus material from residential sector means 55,000 tons of added diversion





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Continuing the Recommendations of the Waste Reduction Task Force

PROPOSED WASTE REDUCTION RULES

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Proposed Rule will:

- Merge current Qualitative Assessment Procedures with the Current Rule
- Require quarterly reports from:
 - Class I, III/IV Landfills
 - Material Recovery Facilities above 100 tpy
- Give proprietary status to industry recycling data
- Allow for up to 30 day extension on APR Submittals

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A New Direction

STATE SOLID WASTE PLAN

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Tennessee's Materials Management Plan February 1991

The Barkenbus Study: *"Managing Our Waste: Solid Waste Planning for Tennessee"*

Identified 9 Programs:

- Local governments planning
- Counties provide collection
- Adopt 25% waste reduction goal
- Institute waste reduction initiatives
- Separate problem wastes
- Educate the public
- Provide technical assistance
- Collect data and research
- Full cost accounting implementation

WMREI

MANAGING OUR WASTE:
SOLID WASTE PLANNING
FOR TENNESSEE

**WASTE
MANAGEMENT
RESEARCH and
EDUCATION
INSTITUTE**

A Center of Excellence at The University of Tennessee

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2007 Waste Reduction Task Force

26 Professionals representing many sectors

22 Identified New Directions

43 Identified Issues

4 Workgroups

- WASTE REDUCTION GOAL and METHODOLOGY
- PUBLIC AND PRIVATE PARTICIPATION
- GOVERNMENT ORGANIZATION ROLES
- INFRASTRUCTURE AND FINANCIAL DEVELOPMENT

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Waste Reduction Task Force

- Simplify the waste reduction goal
- Determine waste stream analysis
- Benchmark State with successful programs
- Only make counties responsible for controllable waste
- Identify hazardous and toxic waste
- Understand current infrastructure to make economically viable
- Require Class III/IV to charge by the ton
- Extend a tipping fee surcharge to Class III/IV landfills
- Single stream recycling

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Waste Reduction Task Force

- Make everyone responsible
- Cities responsible within counties, shared responsibility
- Incentives for partnership with industry
- Develop strategy first, then infrastructure
- Conduct situational analysis to account for differences in local government abilities
- Conduct situational analysis and develop best management practices
- Address infrastructure needs and short falls
- Identify markets for recycle commodities

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Waste Reduction Task Force

- Review previous grants
 - What are available?
 - Which grant gave greatest return on investment?
 - Look at future verses past performances
 - Reallocate according to these directions
- Make reporting back part of the grant
 - What did or didn't work
 - Past performance
- New or pilot programs for new solid waste programs get grants to help get off the ground

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A New Materials Management Plan

Fall	2013	- Receive Requests For Proposals
Winter	2013	- Contract with Consultant
Spring	2014	- Public Hearings
Summer	2014-16	- Research, Write, Present
Summer	2016	- Adopt
Fall	2016	- Train and Share Plan
Winter	2017	- Start Implementation

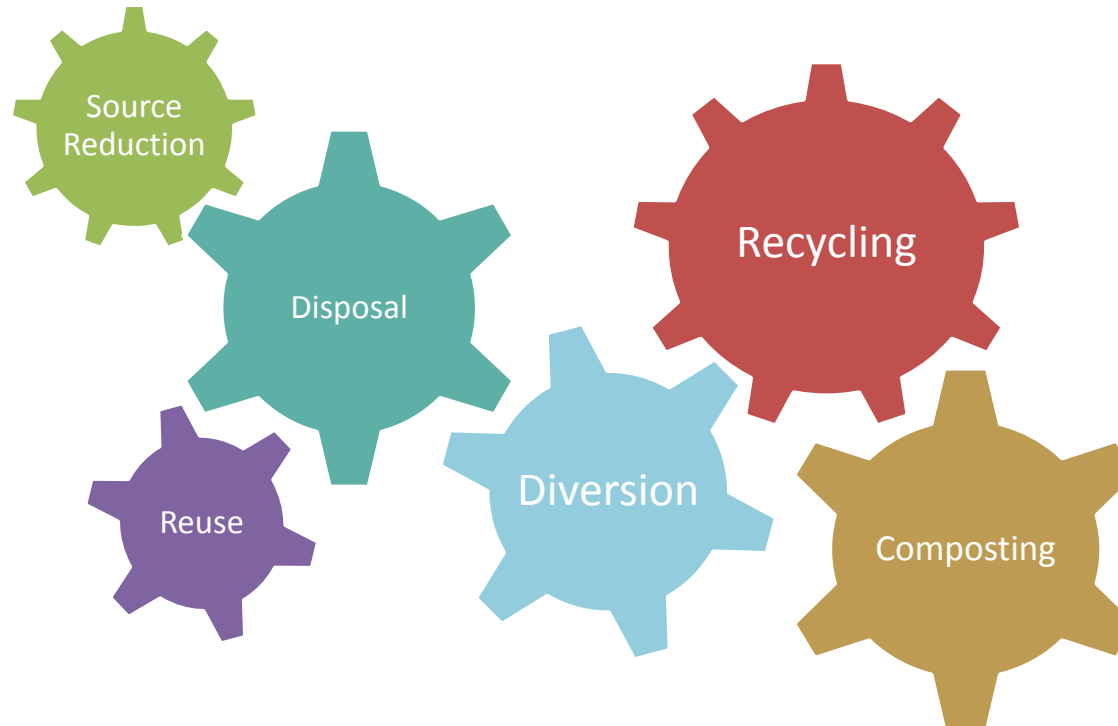
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Integrated Solid Waste Management



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The Statewide Plan

- Sets Vision
- Establishes Program Framework
 - Acceptable Practices
 - Timing
 - Identifies Stakeholders
- Guide for Local Governments
 - Regional Plan Format
 - Resource and Reference

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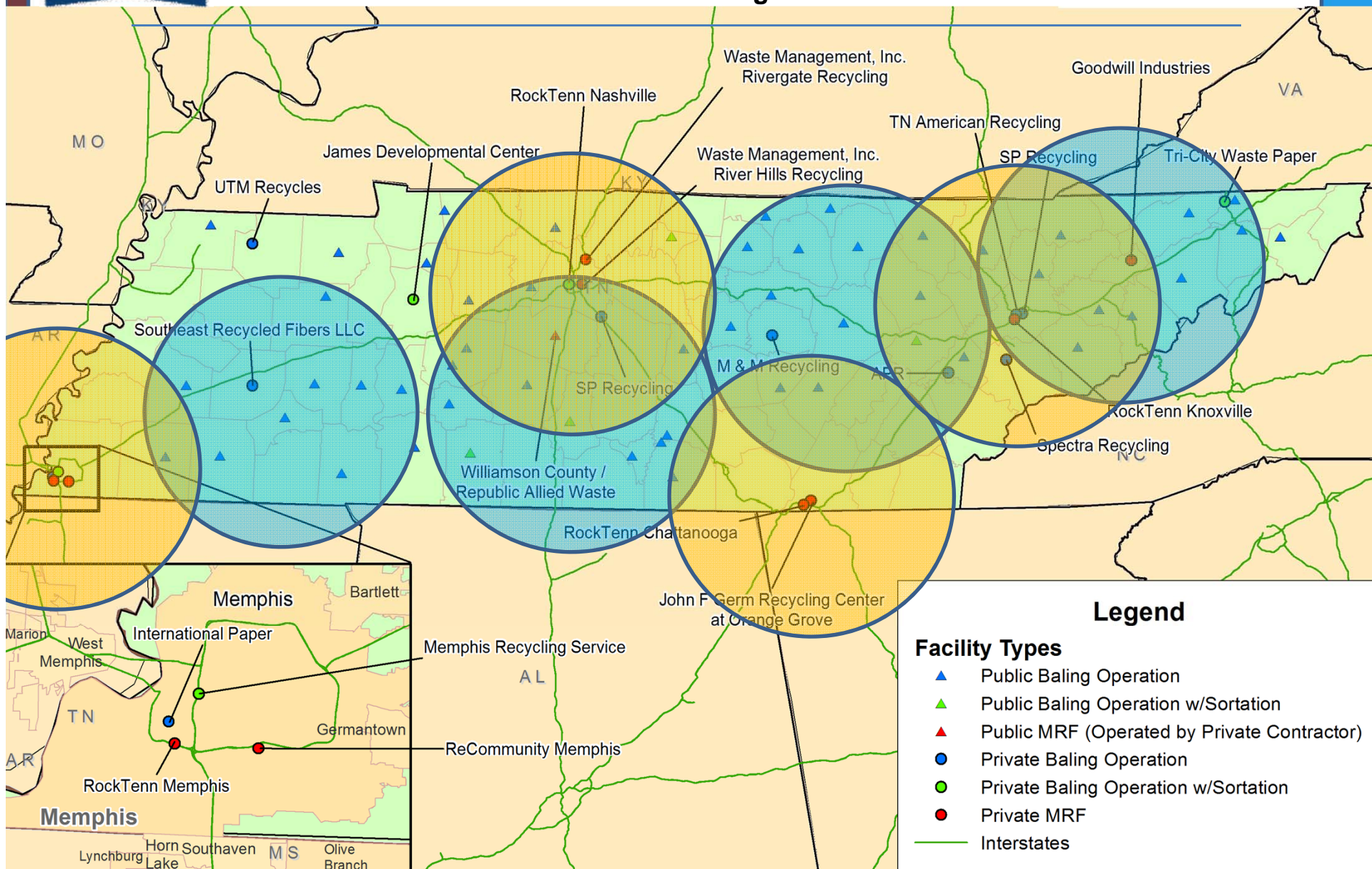


Plan Might Include:

- Suggestions for:
 - Goals
 - Milestones
 - Action Steps
 - Objectives
 - Timing
 - Stakeholders
- How to handle:
 - Infrastructure
 - Future Funding
 - Grant Expenditures
 - Product Stewardship/EPR
 - Waste Conversion Technologies



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Division of Solid & Hazardous Waste Management





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Hub and Spoke

- Cost Effective
- Economics – Higher Load Value
- Focused Approach – Collection or Processing
- Economy of Scale
- Avoid Duplication of Equipment
- Leverages Resources of Participants
- Transportation Savings

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